

REMARKS

Added Claims 21-30

Claim 21 is an independent claim, from which dependent claims 22-30 ultimately depend. Claim 21 is substantially identical to claim 1. However, claim 21 limits the carriage assembly to having “a single print head,” to which claim 1 is not limited. Claims 22-30 are substantially identical to claims 2-10.

Applicant asserts that claim 21, and thus claims 22-30 for at least the same reason, are patentable over the cited prior art, notwithstanding the rejection under 35 USC 112, first paragraph, which was made in the parent patent application, serial no. 09/967,071, to the current patent application in the Office Action of March 24, 2003. Because claim 1 was rejected under 35 USC 103(a) as being unpatentable over Tschida (5,793,392) in view of Elgee (5,856,833) in the recited Office Action in the parent application, Applicant particularly discusses the patentability of claim 21 over Tschida in view of Elgee. Whereas claim 21 is limited to the carriage assembly having a *single* print head, Tschida requires a print head *array* 51 to print over a stationary sheet of paper. Tschida’s stationary sheet printing is specifically disclosed with respect to FIGs. 3B, 4C, and 5C of Tschida.

Tschida in view of Elgee does not teach the stationary sheet printing of claim 21, in which a print head is used, because Tschida particularly needs an array of print heads in order to print over a stationary sheet. Tschida teaches that “[p]rint head array 51 is used in some forms of the present invention where both *small* horizontal dimension and *small* vertical dimension movements of the print head array are performed over a stationary sheet of paper.” (Col. 7, ll. 38-41) (Emphasis added) An array of print heads is thus needed in Tschida to print over the entirety of a stationary sheet, because the array itself can only make *small* horizontal and vertical dimension movements. By comparison, the invention of claim 21 uses a *single* print head that is able to “print on substantially any part of the sheet.”

That Tschida in view of Elgee does not teach the stationary sheet printing of claim 21, in which a print head is used, is further buttressed by other teachings within Tschida:

Each print head in print head array 51 is assigned a corresponding printable area such as printable area 304 or printable area 306 in FIG. 5C. Each printable area includes a corresponding vertical length 308 and horizontal width 310. The combined vertical lengths of all the corresponding printable areas are equal to the image length indicated at 312. The combined horizontal widths of all the printable areas are equal to the image width 314.

...

For example, in a typical embodiment using this arrangement of print head array 51, 1/16 inch movements in both the vertical and horizontal dimensions are utilized with print heads each having one printing element separated by 1/16 of an inch.

(Col. 11, ll. 60-67; col. 12, ll. 9-12) That is, in Tschida, the print head array has a number of print heads, each of which has a corresponding printable area. The small horizontal and vertical movements of the print head array thus allow each specific print head to print over its correspondingly small printable area. Further, Tschida teaches one example where only 1/16-inch movements are allowed by the print head array.

Therefore, Tschida in view of Elgee does not teach the stationary sheet printing of claim 21, in which a *single* print head is used, and further does not render the invention of claim 21 obvious in combination with other of the cited references. Having a *single* print head to print on substantially any part of a sheet of paper is very different than having a large number of print heads in an *array*, where any given print head only has to move 1/16th of an inch vertically or horizontally to cover its corresponding print area. For at least these reasons, claim 21, and claims 22-30 that depend from claim 21, are patentable over the cited prior art.

Claim Rejection under 35 USC 112, First Paragraph

Claims 1-15 were rejected under 35 USC 112, first paragraph, in the recited Office Action of March 24, 2003, in the parent patent application, serial no. 09/967,071, as containing subject matter that was not described in the specification in such a way as to enable to skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Of claims 1-15, claims 1-10 currently remain pending in this continuing patent application and were cancelled in the parent patent application. It was unclear to the Examiner how the claimed invention operates. Two specific instances of lack

of clarity were cited. First, that Applicant states that the carriage assembly moves across different sets of stationary and/or movable rail units, but that it is not clear exactly how the carriage moves across different sets of rails. Second, that it appears that the carriage is movable only in the horizontal plane, and not in the vertical and horizontal planes as outlined. Applicant respectfully apologizes that the specification was unclear to the Examiner, but vigorously maintains that the specification is enabling under 35 USC 112, first paragraph, and would be maintained on appeal as such.

First, the specification clearly shows how the carriage assembly moves across different sets of rails. It is important to recognize that FIGs. 4A, 4B, and 4C show different embodiments of the invention, from a high-level viewpoint. For example, FIG. 4A shows a stationary rail 208A, with movable rails 208B and 208C. Thus, the carriage can go from left to right (i.e., horizontally) on a part of the stationary rail 208A. To move vertically, the carriage first goes all the way to the left to go onto the movable rail 208B, or all the way right to go onto the movable rail 208C. The movable rail in question then moves up or down (i.e., vertically), so that the carriage can get off and move on a different part of the stationary rail 208A. FIG. 4B shows the case where there is only one movable rail, and FIG. 4C shows the case where there are no movable rails, such that the carriage jumps, or bumps, to achieve vertical movement.

The specific manner by which the carriage assembly actually moves across a rail is shown in the detailed drawings of FIGs. 5, 6, and 7. For example, FIG. 5 shows what the rails look like up close. The carriage moves from left to right over these rails. If the rail is movable, then the rail moves up and down so that the carriage is transported to a new part of a fixed rail. If all the rails are fixed, then the carriage bumps or jumps to skip the tracks of the rail. As another example, FIG. 6 shows how the carriage assembly 206 specifically rides on the rails that are shown in FIG. 5.

Second, the notations of vertical and horizontal do not apply to planes as such, as misinterpreted by the Examiner, but as to directions, such that the specification is enabling. For instance, in FIG. 3, the carriage assembly 206 moves vertically, as indicated by the arrows 302 and 304, and horizontally, as indicated by the arrows 306 and 308. Although the sheet

204 is a plane, it is nevertheless possible and proper to say that the assembly 206 moves vertically over the sheet 204, and horizontally over the sheet 204. Applicant notes that this usage of the terms horizontally and vertically is quite common. For instance, Tschida describes horizontal movement and vertical movement across a sheet. In FIG. 3B of Tschida, as an example, the horizontal directions are indicated as 100 and 102, and the vertical directions are indicated as 106 and 108. (Col. 7, ll. 65-67, through col. 8, ll. 1-2)

Applicant strongly contends that pending claims 1-10 are enabled by the specification, and believes respectfully but vigorously that the Examiner's assertion that the specification does enable claims 1-10 would not be maintained on appeal. To that extent, Applicant very much encourages the Examiner to contact Applicant's Attorney if necessary to discuss the Examiner's concerns with the enablement of the claims by the specification before a further Office Action is issued, so that this issue can be quickly resolved without further proceedings.

Claim Rejections under 35 USC 103

Claims 1, 2, 9, and 10 were rejected under 35 USC 103(a) as being unpatentable over Tschida in view of Elgee in the recited Office Action of March 24, 2003, in the parent patent application, serial no. 09/967,071. Claims 4 and 6 were rejected under 35 USC 103(a) as being unpatentable over Tschida in view of Elgee, and further in view of Tezuka (4,948,243). Applicant respectfully asserts, however, that a *prima facie* case of non-obvious has not been made, both with respect to Tschida in view of Elgee, and with respect to Tschida in view of Elgee and further in view of Tezuka.

Specifically, Tschida is not combinable with Elgee or Tezuka. The Examiner relies upon the teachings of Tschida that relate to a stationery sheet printer. However, Elgee and Tezuka do not relate to stationery sheet printers. In FIG. 1 of Elgee, the sheet 14 moves through the printer, as indicated by the bi-directional arrow 16, and in FIG. 4 of Tezuka, a sheet of paper also moves through the printer. The stationary sheet printing teaching of Tschida cannot thus be combined with the non-stationary sheet printing teachings of Elgee and Tezuka. They are different types of printing technologies. Modifying Tschida's stationary sheet printing teachings in view of Elgee and Tezuka would frustrate the intended

purposes of these teachings of Tschida, in that printing would no longer be on a stationary sheet.

Conclusion

Applicants have made a diligent effort to place the pending claims in condition for allowance, and request that they so be allowed. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Mike Dryja, Applicants' Attorney, at 425-427-5094, so that such issues may be resolved as expeditiously as possible. For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

7-8-03

Date

Michael A. Dryja

Michael A. Dryja, Reg. No. 39,662
Attorney/Agent for Applicant(s)

Law Offices of Michael Dryja
704 228th Ave NE #694
Sammamish, WA 98074
tel: 425-427-5094
fax: 206-374-2819